

# Welcome!

## The meeting will start at 3:15 PM

Welcome!

-----  
Date and time:  
Monday  
March 28<sup>th</sup> 2022,  
15:15-16:45 CET  
-----

Place: Hybrid event  
at KTH Campus  
and Zoom  
-----

Registration  
(by March 24<sup>th</sup>):  
in [vTools](#)  
-----

*Open to IEEE  
Members and non-  
Members alike*  
-----

Contact:  
[ambra.sannino@ieee.org](mailto:ambra.sannino@ieee.org)



Photo from: <https://www.flickr.com/photos/tags/hvdc/>

## Annual Meeting IEEE PES/PELS Sweden Chapter

including *Keynote Speech:*  
“Fundamentals of HVDC LCC and  
Chile’s Kimal Lo Aguirre HVDC project”

*by Dr. Gabriel Olguin,*

*HVDC Engineering specialist at  
AFRY T&D, Sweden*

For more information: <http://sites.ieee.org/sweden/pepel-chapter/>

# IEEE Joint Chapter Power & Energy Society and Power Electronics Society

## Sweden Section

Dr. Ambra Sannino – Chapter Chair



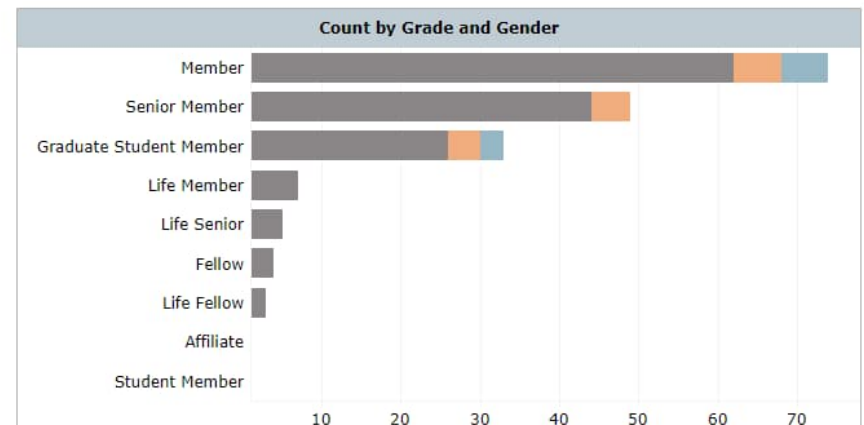
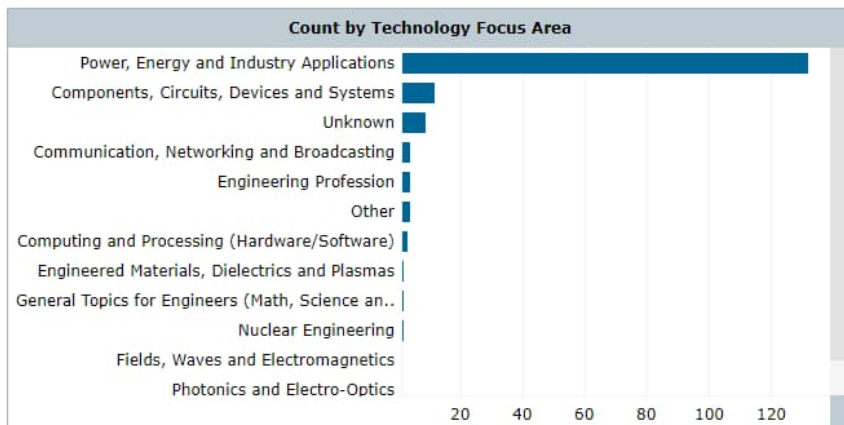
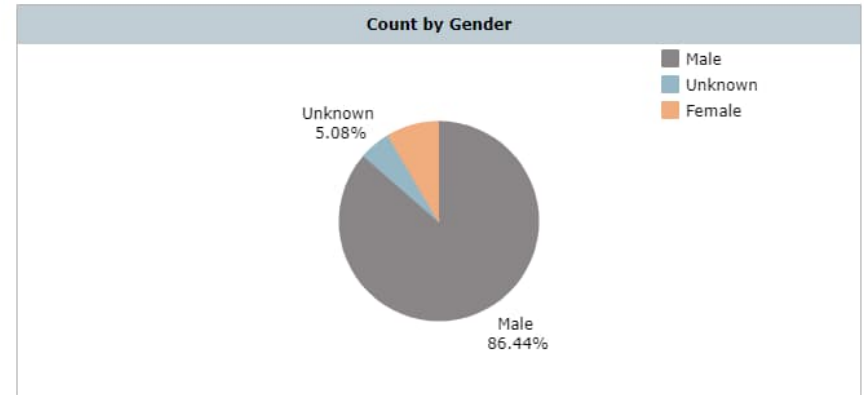
# Agenda

- Activity Report 2021
- Results of the Board Election
  - Presentation of the 2022 Board
- Updates from Board:
  - Membership development, Web, etc.
- *Keynote Speech by Dr. Gabriel Olguin*
  - *“Fundamentals of HVDC LCC and Chile’s Kimal Lo Aguirre HVDC project”*
- MSc thesis award 2021
- Upcoming activities 2022

# ACTIVITY REPORT 2021

# Sweden PE/PEL Chapter – Members

Count by Region and Grade					
Region	Council	Section	Grade Category	Grade	Total
R8	Region 8 - No Council	Sweden Section	IEEE Grades	Fellow	4
				Graduate Student Member	33
				Life Fellow	3
				Life Member	7
				Life Senior	5
				Member	74
				Senior Member	49
				Student Member	1
				Other Grades	1
				Affiliate	1
			Total	177	
			Total	177	
			Total	177	
Grand Total	177				



# Recap - Activities H1 2021

- January 14<sup>th</sup> 2021:
  - Seminar by Prof. Leon Tolbert on “ in collaboration with Wide Band Gap Power Center
- March 10<sup>th</sup> 2021:
  - IEA Power Electronics Conversion Technology Annex (PECTA) Seminar in collaboration with Wide Band Gap Power Center
- March 17<sup>th</sup> 2021:
  - Annual Meeting and seminar by Dr. Shay Bahramirad: “Mitigation and Adaptation of Climate Change: Design, Planning and Operation of the Grid of the Future”
- March 19<sup>th</sup> 2021:
  - IEEE Seminar on “Opportunities in Power Quality Research” (multiple speakers)
- April 23<sup>rd</sup> 2021:
  - IEEE Seminar on “The role of inertia and fast frequency control in the Nordic power system” by Dr Robert Eriksson, Svenska kraftnät
- May 26<sup>th</sup>, 2021:
  - IEEE Seminar on “ Microgrids: Swedish and International Perspectives” (multiple speakers)

**IEEE Webinar on Opportunities in Power Quality Research**

Luleå University of Technology, Skövde and Indian Institute of Technology, Delhi in collaboration with the IEEE Sweden Joint Chapter (IEEE PES) are organizing an IEEE webinar on "Opportunities in Power quality Research" via Teams platform.

**OPPORTUNITIES IN POWER QUALITY RESEARCH**  
March 19<sup>th</sup>, 2021  
TO KNOW MORE JOIN US ONLINE

Register via link  
<https://forms.gle/R022WVTS0V9RCLd>

For details, Contact  
Shay Bahramirad  
IEEE Power Electronics  
Luleå University of Technology,  
Skövde Campus, Sweden  
[shay.bahramirad@lulea.se](mailto:shay.bahramirad@lulea.se)  
+46(0)73591827

(IST)	(CET)	
13.00	0.30	Welcome
13.05	0.35	Supercapacitors and Other Waveform Distortions Prof. Math Baltes & team, Luleå University of Technology, Sweden
11.10	10.30	Discussion
11.10	10.10	Break
11.15	10.15	Enhancement in the Power Quality of Electric Supply Prof. Mani Singh & team, Indian Institute of Technology, India
13.10	11.30	Discussion
13.20	11.30	Break
13.30	12.00	Power Quality Challenges Dr. Shankar Kumar M.S., Technology Manager, Hitachi ABB India Limited, Gurgaon
13.30	12.20	Discussion
16.00	12.30	Concluding Remarks and Thanks

Through this platform, we would like to bring researchers, academic and industrial experts working in the field of power quality together and share their research experience and strengthen the industry-academia collaboration.

Date and time:  
Thursday  
Jan 14<sup>th</sup> 2020,  
14:00-16:00 CET

Place: Virtual Event  
in MS Teams

Registration:  
<https://simpleevent.signup.com/event/176200-ieee-webinar-on-high-voltage-sic-mosfets>

Contact:  
Hans-Peter Nee  
<hans@kth.se>



**Welcome to IEEE Webinar**  
*Gate Drive and Protection for SiC MOSFETs*  
by Leon M. Tolbert,  
Professor in Electrical Engineering and  
Computational Engineering  
at the University of Colorado

For more information: <http://www.ieee.org>



# Recap - Activities H2 2021

- September 23<sup>rd</sup> 2021:
  - Seminar “Electrical vehicles for sustainable developments with a European perspective,” by Prof. Lina Bertling Tjernberg, KTH
- November 4<sup>th</sup> 2021:
  - Hybrid seminar on “High Power Density Converter Designs – New Circuit Topologies, Control Techniques, and Packaging” by Prof. Robert Pilawa-Podgurski
- December 9<sup>th</sup>, 2021:
  - “Integration of Inverter-Based Resources, an example of ERCOT” by Dr Julia Matevosyan, ESIG



# PRESENTATION OF THE BOARD 2022



# Sweden PE/PEL Chapter - Elected 2022 Board

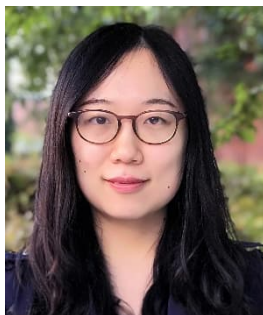
Re-elected  
members

Chair



Ambra Sannino  
Business Director  
DNV

Vice Chair



Qianwen Xu  
Assistant Professor  
Royal Inst of Tech

Treasurer



Sarah Rönnerberg  
Professor  
Luleå Univ of Tech

New member  
Secretary



Fran Marquez  
Associate Senior Lecturer  
Lund University

Membership  
Development



Gabriel Guerreiro  
PhD student  
DTU

Webmaster



Daniel Johannesson  
Scientist  
Hitachi Energy

Student  
Activities



Dhruvi Ajit Shukla  
MSc student  
Royal Inst of Tech

# Thank you for your services!

Former board members

Secretary



Olof Samuelsson  
Professor  
Lund University

# UPDATES FROM THE BOARD

# Updates from the board – Membership Development

## • Senior Membership Elevation

- One should have at least 10 years of professional experience (where some years are credited depending on higher education) and three references from already elevated senior members or fellow members.

Count by Region and Grade					
Region	Council	Section	Grade Category	Grade	Total
R8	Region 8 - No Council	Sweden Section	IEEE Grades	Fellow	4
				Graduate Student Member	33
				Life Fellow	3
				Life Member	7
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				Member	74
				Senior Member	49
				Student Member	1
				Other Grades	Affiliate
			Total	177	
	Total			177	
	Total			177	
	Grand Total			177	

Around 50 members eligible for Senior Membership elevation

# Updates from the board – Membership Development

- Senior Membership Elevation event to be held in the near future.
- Requirements can be checked at:  
<https://www.ieee.org/membership/senior/senior-requirements.html>
- Reminder will be sent by with all instructions, where most of the communication with the interested parties will be done:  
[ieee.se.pespels.sm@gmail.com](mailto:ieee.se.pespels.sm@gmail.com)

Dear IEEE PES/PELS Members of the Swedish Chapter,

We hope you and your families are doing good considering all of the circumstances!

Over the past few weeks we have worked on identifying regular members of our chapter that could potentially be elevated to **Senior Member position** and we think that you are one of those.

In summary, to qualify for senior membership elevation, you should have at least 10 years of professional experience (where some years are credited depending on higher education) and three references from already elevated senior members or fellow members.

If you are interested in applying for the elevation, please contact us at: [ieee.se.pespels.sm@gmail.com](mailto:ieee.se.pespels.sm@gmail.com) and put in the subject of the email "Interested in Senior Membership Elevation".

Please write your name and a brief description of the qualifications you have for Senior Member Elevation. Briefly check also if you're indeed suitable for the elevation at <https://www.ieee.org/membership/senior/senior-requirements.html>. In case you have any further questions remain whether or not you may be eligible, you're also most welcome to contact us.


You can already start contacting senior or fellow members that can be used as a reference for you.

**Note:** You don't need to have all of the three references at this stage. If you cannot gather all, we will try our best to ensure that all interested candidates find referees.

Once all the interested members are identified, we will contact you with further information on how to proceed.

Best Regards,

Gabriel M. G. Guerreiro  
Membership Development Chair  
IEEE PES/PELS Swedish Chapter




Email sent to both members eligible for application and higher-grade members for supporting applications.

# Updates from the board - Web Development

Home / Power & Energy (PE) and Power Electronics (PEL) Chapter

## Power & Energy (PE) and Power Electronics (PEL) Chapter

### About us:

Welcome to the joint IEEE Chapter of Power & Energy and Power Electronics. Our ambition is to provide support to all IEEE PE/PEL members in Sweden, by interesting seminars, webinars, membership development support, and other useful tools and information for your academic or industry work life.

### Upcoming Events:

Welcome!

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Monday  
March 28<sup>th</sup> 2022,  
15:15-16:45 CET

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and Zoom

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Registration  
(by March 24<sup>th</sup>):  
in [vTools](#)

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Open to IEEE  
Members and non-  
Members alike

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Contact:  
[ambra.sannino@ieee.org](mailto:ambra.sannino@ieee.org)



Photo from: <https://www.flickr.com/photos/tags/hvdc/>

### Annual Meeting IEEE PES/PELS Sweden Chapter

including **Keynote Speech:**  
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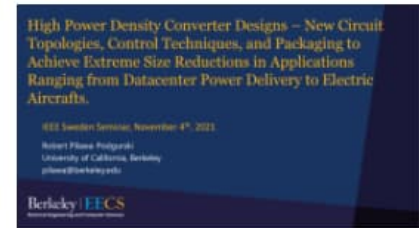
Registration (by March 24th): in [vTools](#)

### Selected Past Events:

Dec. 9th, 2021: IEEE on-line seminar "[Integration of Inverter-Based Resources, an example of ERCOT](#)" by [Dr. Julia Matevosyan](#).



Nov. 4th, 2021: IEEE Seminar on "[High Power Density Converter Designs – New Circuit Topologies, Control Techniques, and Packaging to Achieve Extreme Size Reductions in Applications Ranging from Datacenter Power Delivery to Electric Aircrafts](#)," by [Professor Robert Pilawa-Podgurski, UC Berkeley](#).



For more information about upcoming or past events please see events listed at <http://sites.ieee.org/sweden/events/>.

Link to find  
more past events

### The current board of the PE/PEL Chapter

**Chair:** Ambra Sannino, [ambra.sannino@ieee.org](mailto:ambra.sannino@ieee.org)

**Vice-chair:** Qianwen Xu, [qianwenu@kth.se](mailto:qianwenu@kth.se)

**Treasurer:** Sara Rönberg, [sara.ronberg@tu.se](mailto:sara.ronberg@tu.se)

**Secretary:** Olof Samuelsson, [Olof.Samuelsson@iea.th.se](mailto:Olof.Samuelsson@iea.th.se), +46 46 222 7504

**Membership development:** Gabriel Miguel Gomes Guerrero, [gmggu@elektro.dtu.dk](mailto:gmggu@elektro.dtu.dk)

**Webmaster:** Daniel Johansson, [daniel.johansson@hitachienergy.com](mailto:daniel.johansson@hitachienergy.com)

**Student Representative:** Oshruvi Aji Shukla, [oshukla@kth.se](mailto:oshukla@kth.se)



IEEE Power & Energy (PE) and Power Electronics (PEL) Joint Chapter, Sweden

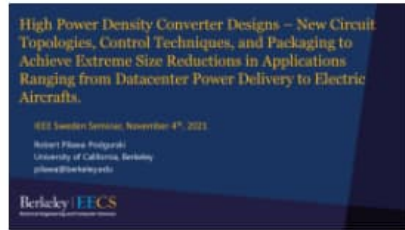
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Link to find more past events

## The current board of the PE/PEL Chapter

- Chair:** Ambra Sannino, [ambra.sannino@ieee.org](mailto:ambra.sannino@ieee.org)
- Vice-chair:** Qianwen Xu, [qianwenz@kth.se](mailto:qianwenz@kth.se)
- Treasurer:** Sara Rönberg, [sarah.ronberg@tu.se](mailto:sarah.ronberg@tu.se)
- Secretary:** Olof Samuelsson, [Olof.Samuelsson@iea.th.se](mailto:Olof.Samuelsson@iea.th.se), +46 46 222 7504
- Membership development:** Gabriel Miguel Gomes Guerreiro, [gmgqu@elektro.dtu.dk](mailto:gmgqu@elektro.dtu.dk)
- Webmaster:** Daniel Johansson, [daniel.johansson@hitachienergy.com](mailto:daniel.johansson@hitachienergy.com)
- Student Representative:** Ohruvi Ajit Shukla, [daohuka@kth.se](mailto:daohuka@kth.se)



IEEE Power & Energy (PE) and Power Electronics (PEL) Joint Chapter, Sweden

## Upcoming Events

EVENTS FROM  
*Date*

SEARCH  
*Keyword*

FIND EVENTS

VIEW AS  
List

« Previous Events
4
Next Events »

March 2022

**Annual Meeting IEEE PES/PELS Sweden Chapter**  
 March 28 @ 15:15 - 16:45

*Hybrid Event at both KTH Campus and on Zoom (address/link will be sent upon registration) Stockholm, Sweden*

220328 IEEE Annual Meeting - Flyer Dear IEEE Sweden Chapter Members, Join us at the Annual Meeting of the Joint Chapter of the IEEE Power & Energy Society and IEEE Power Electronics Society for Sweden, with plenty of updates from the Chapter, award to the best MSc thesis of 2021 and keynote speech by Gabriel Olguin! Date: March 28th, 2022 Time: 15:15-16:45 CET Location: Hybrid event at KTH Campus and Zoom Registration (by March 24th): in vTools Welcome! Dr...

Find out more >

June 2022

**Swedish Artificial Intelligence Society (SAIS) annual workshop: SAIS 2022**  
 June 13 @ 09:30 - June 14 @ 16:30

The SAIS workshop has since its first edition been a forum for building the Swedish AI research community and nurturing networks across academia and industry. We invite researchers and practitioners in AI and related disciplines, in Sweden and the rest of the world, to join us in exchanging knowledge, news and results on AI related theory and applications. SAIS 2022 will take place in Stockholm, Sweden, on June 13-14, 2022. The event is planned to be hybrid combining in-person and...

Find out more >

October 2022

**Optics and Photonics in Sweden (OPS-2022)**  
 October 5 @ 09:00 - October 6 @ 17:00

*Umeå University, Campus Umeå, Umeå, Sweden + Google Map*

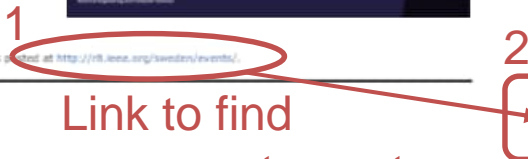
Due to the COVID-19 situation in Oct-2021 the Optics and Photonics in Sweden (OPS-2021) conference was postponed to Oct-2022 The conference is organized by PhotonicSweden and Umeå University. The general chair is Prof. Ove Axner, Department of Physics, Umeå University. The conference will give an overview of Optics and Photonics in Sweden and Scandinavia and offer a good platform for creating new collaborations. Keynote speakers will highlight European research and developments. A poster session will provide an additional opportunity to...

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# KEYNOTE SPEECH



# Keynote Speech

*Fundamentals of HVDC LCC and Chile´s Kimal Lo Aguirre HVDC project” by Dr. Gabriel Olguín*

Gabriel Olguín is a power engineer, MSc, MBA and Ph.D. Dr Olguín has 25 years of experience in studies, research, engineering, power product development and innovation. He has taken various roles at power distribution and transmission utilities, Academia and research centers. He was a scientist at ABB Corporate Research in Sweden, technology manager at the main grid in Chile and HVDC practice lead at Jacobs – SKM. He is currently HVDC consultant at AFRY Sweden where he supports clients in various stages of project development associated with HVDC, FACTS and energy storage. He is CIGRE Chile president and SC B4 Regular Member.



# MSC THESIS AWARD

# MSc thesis award 2021

- MSc thesis award
  - Eligible are MSc theses examined by a Swedish University in 2021
  - By application from the students themselves
  - The topic shall be within the area of interest of PES or PELS
  - Open to all students, non-IEEE members can also apply
  - Applications were submitted to:
    - Dhruvi Shukla and Qianwen Xu
  - A reward of 2000 SEK to the best MSc thesis
  
- Evaluation done by Dr Daniel Karlsson
  - Senior Principal Consultant at DNV
  - Adjunct Professor at Chalmers



# Applications

- Out of 12 applications,
  - 6 from KTH University
  - 1 from Lund University
  - 5 from Chalmers University
- 4 were selected by Qianwen Xu and Dhruvi Shukla for further evaluation

# Pre-selected M.Sc. thesis

1. Kristinn Arnar Ormsson, Modelling and Dynamic Performance of Hydropower in Frequency Regulation, KTH University
2. Pandu Nugroho Prianto, Equivalent Models for Hydropower Operation in Sweden, KTH University
3. Dhiyanesh Radhakrishnan, Modelling of air-gap harmonic torques and its impact on vibrations in electric drivetrain, KTH University
4. Vijay Sreenivas, Comparison of AC and DC Offshore Wind Farm Systems using Grid-Forming Control of Grid-Connected Voltage-Source Converters, Chalmers University

# Evaluation Criteria

- Topic within Power & Energy or Power Electronics area
  - Applies to all the applications (a yes/no criterion)
- Relevance for the industry
  - For my evaluation, this is a yes/no criterion, and not a more/less criterion, to give equal conditions for detailed investigations and for the assignments covering a broad view
- Technical content / quality of results
  - For my evaluation, this is a gradual criterion more/less
- Readability / Quality of the text
  - For my evaluation, this is a gradual criterion more/less

# Evaluation

- Out of the 4 candidates selected by Dhruvi and Qianwen,
  - I selected 2 good candidates fulfilling all the requirements and honourable receivers of the award
- Out of these 2, I ranked 1 a little bit higher than the other one

# The highest ranked application

- By
  - Kristinn Arnar Ormsson
- Entitled:
  - *Modelling and Dynamic Performance of Hydropower in Frequency Regulation*



The IEEE PES/PELS Sweden – Master Thesis Award 2021  
goes to  
Kristinn Arnar Ormsson  
for his thesis  
*Modelling and Dynamic Performance of Hydropower  
in Frequency Regulation*

- The thesis is relevant for the industry, technically sound and consistent
- The results are of outstanding quality
- The thesis is well written, clear and effective in its presentation



The winner should contact treasurer Sarah Rönnerberg,  
[sarah.ronnerberg@ltu.se](mailto:sarah.ronnerberg@ltu.se)

# EVENTS 2022 / UPCOMING

# Make your voice heard!

- On which topics would like to see interesting presentations?
- What other activities should IEEE promote?



Go to [menti.com](https://www.menti.com) and use the code  
6955 6081

<https://www.menti.com/fr68oswdm9>

Link to the results

<https://www.mentimeter.com/s/07a7dd2d61c3e857850e2c288a0e579f/5a24d873812a>

THANK YOU  
for your attention!